

REMARKS/ARGUMENTS

Claims 1, 3, and 5 through 14 are pending in this application. Claims 2 and 4 are cancelled. For at least the reasons set forth below, Applicant respectfully submits that the present claims are patentably distinguishable over the cited art.

The Action objects to claim 6 as informal. Claim 6 has been amended to correct the objected informality. Reconsideration and withdrawal of the objection are requested.

Claims 1, 5 through 7, and 11 through 13 stand rejected under 35 USC §102(b) as being unpatentable over U.S. Patent No. 6,423,918 to King et al. ("King").

Claim 1 recites a resilient switch contact including a unitary conductive body having a mounting end portion disposed in a first plane. A central operating portion is disposed in a second plane spaced apart from the first plane in a first direction. An intermediate buffer portion interconnects the mounting end portion to the central operating portion. First and second support portions are spaced apart from each other in a second direction transverse to the first direction and extending from the central operating portion in the first direction toward the first plane. The intermediate buffer portion includes a bend section extending from the mounting end portion, and a linear extension section extending from the bend section to the central operating portion.

King provides "an electrically conductive dome switch member 30 of a domed shape which is illustrated in this embodiment as shown in FIG. 2 as having a generally star shape that includes four legs 32 extending outwardly from a central portion 34". (col. 3, lines 7-11). King further provides that "two retainers 42 cooperate with a first pair of the leg ends 40 to be retained thereby and one of the second pair of leg ends 40 slidably engages the first contact 22 while the other of the second pair of leg ends 40 slidably engages the third contact 28". (col. 3, lines 17-25).

Applicants respectfully submit that King fails to disclose or suggest a unitary conductive body having an intermediate buffer portion including a bend section extending from the mounting end portion, and a linear extension section extending from the bend section to the central operating portion, as recited in claim 1.

King provides four legs 32 that extend in a continuous convex curve from central portion 34 to the circuit board 16, as clearly shown in Figure 1. Moreover, the Action concedes that King does not disclose the intermediate buffer portion including a bend section. (page 4 of the Action, last line).

Therefore, a unitary conductive body having an intermediate buffer portion including a bend section extending from the mounting end portion, and a linear extension section extending from the bend section to the central operating portion, as recited in claim 1 are not disclosed or suggested by King.

Claims 5 and 6 depend from claim 1, and, thus, for at least the reasons set forth above for claim 1, are also patentably distinguishable over King.

Claim 7 provides a key switch device including a circuit board formed with an electrical contact unit. A unitary conductive body having a mounting end portion soldered on the circuit board. A central operating portion spaced apart from the electrical contact unit of the circuit board in a first direction. An intermediate buffer portion interconnecting the mounting end portion to the central operating portion. First and second support portions spaced apart from each other in a second direction transverse to the first direction and extending from the central operating portion in the first direction toward the circuit board. The central operating portion is operable so as to move from a normal position, where the central operating portion is spaced apart from the electrical contact unit, to a pressed position, where the central operating portion, the intermediate buffer portion and the first and second support portions deform and where the central operating portion contacts electrically the electrical contact unit, the intermediate buffer portion and the first

and second support portions providing a restoring force to move the central operating portion from the pressed position back to the normal position.

Again, King provides "an electrically conductive dome switch member 30 of a domed shape which is illustrated in this embodiment as shown in FIG. 2 as having a generally star shape that includes four legs 32 extending outwardly from a central portion 34". (col. 3, lines 7-11). King further provides that "two retainers 42 cooperate with a first pair of the leg ends 40 to be retained thereby and one of the second pair of leg ends 40 slidably engages the first contact 22 while the other of the second pair of leg ends 40 slidably engages the third contact 28". (col. 3, lines 17-25).

Applicants respectfully submit that King fails to disclose or suggest a mounting end portion soldered on the circuit board, as recited in claim 7.

King provides retainers as shown in FIGS. 1 and 2 that extend between the circuit board and the housing capture the dome switch member leg ends shown in FIG. 2.

Therefore, a mounting end portion soldered on the circuit board as recited in claim 7 is not disclosed or suggested by King. Moreover, King teaches away from a mounting end portion soldered on the circuit board by providing that the two leg ends held by the retainers may also slidably engage contacts on the circuit board. (col. 3, lines 53-55). Rather, a fixed connection is provided by a mounting end portion soldered on the circuit board.

Claims 11 through 13 depend from claim 7, and for at least the reasons set forth above for claim 7, thus, are also patentably distinguishable over King.

It is respectfully submitted that claims 1 and 7, and claims 5 and 6 and 11 through 13 depending, respectively, therefrom, are patentably distinguishable over King. Accordingly, reconsideration and withdrawal of the §102(b) rejection are requested.

Claims 2 through 4, 8 through 10, and 14 stand rejected under 35 USC §103(a) as being unpatentable over King in view of U.S. Patent No. 4,376,238 to Martin (hereinafter "Martin"). Claims 2 and 4 are cancelled rendering the rejections to claims 2 and 4 moot.

Claims 3 depends from claim 1, and thus, includes the elements of claim 1 discussed above.

Again, King provides "an electrically conductive dome switch member 30 of a domed shape which is illustrated in this embodiment as shown in FIG. 2 as having a generally star shape that includes four legs 32 extending outwardly from a central portion 34". (col. 3, lines 7-11). King further provides that "two retainers 42 cooperate with a first pair of the leg ends 40 to be retained thereby and one of the second pair of leg ends 40 slidably engages the first contact 22 while the other of the second pair of leg ends 40 slidably engages the third contact 28". (col. 3, lines 17-25).

Martin provides a membrane switch including an elastomeric membrane mounted on a base member having at least one belled out portion providing a cavity that is positioned over a first pair of conductors on the base member, and a conductive element provided within the cavity and disposed above the first pair of conductors, as shown in Figure 2. The belled out portion has a circumscribing region that is located above a second pair of conductors and has one fold carried with a conductor on its under side. In use, the membrane collapses so that the conductor carried on the fold first connects together the second pair of conductors. Then, as the depression of the membrane continues, the conductive element is brought into contact with the first pair of conductors, so that there is a time relationship between connection of the conductors produced by the relative spacings between these two pairs of conductors and their corresponding contacts, respectively. (col. 3, lines 13-22).

Applicant respectfully submits there is no disclosure, suggestion or motivation for the modification of King and Martin, and the combination of King and Martin, even if technically feasible, which is not admitted as possible, does not render claim 3 obvious.

As discussed above, King fails to disclose or suggest a unitary conductive body having an intermediate buffer portion including a bend section extending from the mounting end portion, and a linear extension section extending from the bend section to the central operating portion, as recited in claim 1. Moreover, the Action concedes that King does not disclose the intermediate buffer portion including a bend section. (page 4 of the Action, last line).

The Action asserts that one of ordinary skill in the art at the time the invention was made to have the bend intermediate buffer portion as taught by Martin with King's switch for the purpose of extending the switches' life. Applicant respectfully disagrees. Neither King nor Martin addresses the problem of extending the switches' life. Applicant respectfully submits that the Office is using impermissible hindsight reconstruction to support of the rejection.

Furthermore, Martin teaches away from a unitary conductive body having an intermediate buffer portion including a bend section extending from the mounting end portion, and a linear extension section extending from the bend section to the central operating portion, as recited by claim 1. Martin recites that the membrane collapses so that the conductor carried on the fold first connects together the second pair of conductors and, as the depression of the membrane continues, the conductive element is brought into contact with the first pair of conductors, so that there is a time relationship between connection of the conductors produced by the relative spacings between these two pairs of conductors and their corresponding contacts, respectively. Therefore, should the membrane in Martin be a unitary conductive body having an intermediate buffer portion including a bend section extending from the mounting end portion, and a linear extension section extending from the bend section to the central operating portion, as recited by claim 1, then the second pair of conductors of the Martin device would be continuously connected.

In addition, King teaches away from a unitary conductive body having an intermediate buffer portion including a bend section extending from the mounting end portion, and a linear extension section extending from the bend section to the central operating portion, as recited by claim 1. King provides two retainers that may extend from the circuit board over the dome switch member while permitting sliding thereof on the circuit board to provide alignment with the first and second contacts. (col. 3, lines 56-59). A bend section extending from the mounting end portion, as recited by claim 1, may restrict sliding for alignment with the first and second contacts as provided by Martin.

Thus, claim 3 depending from claim 1 is also patentable over King and Martin alone or in combination. As such, Applicants respectfully request reconsideration and withdrawal of the §103(a) rejection of these claims.

Claims 8, 10, and 14 depends from claim 7 and claim 9 depends from claim 8 that further depends from claim 7, and thus, include the elements of claim 7 discussed above.

Again, King provides "an electrically conductive dome switch member 30 of a domed shape which is illustrated in this embodiment as shown in FIG. 2 as having a generally star shape that includes four legs 32 extending outwardly from a central portion 34". (col. 3, lines 7-11). King further provides that "two retainers 42 cooperate with a first pair of the leg ends 40 to be retained thereby and one of the second pair of leg ends 40 slidably engages the first contact 22 while the other of the second pair of leg ends 40 slidably engages the third contact 28". (col. 3, lines 17-25).

Martin provides a membrane switch including an elastomeric membrane mounted on a base member having at least one belled out portion providing a cavity that is positioned over a first pair of conductors on the base member, and a conductive element provided within the cavity and disposed above the conductors, as shown in Figure 2. The belled out portion has a circumscribing region that is located above a second pair of conductors and has one fold carried with a conductor on its under side. In use, membrane collapses so that the conductor carried on the fold first connects together the second pair

of conductors. Then, as the depression of the membrane continues, the conductive element is brought into contact with the first pair of conductors, so that there is a time relationship between connection of the conductors produced by the relative spacings between these two pairs of conductors and their corresponding contacts, respectively. (col. 3, lines 13-22).

King and Martin alone or in combination fail to disclose all of the elements of claims 8 through 10, and 14.

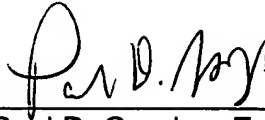
As discussed above, King fails to disclose or suggest a mounting end portion soldered on the circuit board, as recited in claim 7.

Furthermore, Martin fails to disclose or suggest a mounting end portion soldered on the circuit board, as recited by claim 7. Moreover, Martin teaches away from a mounting end portion soldered on the circuit board by providing an elastomeric membrane.

Thus, claims 8, 10, and 14 depending from claim 7 and claim 9 depending from claim 8 that further depends from claim 7 are also patentable over King and Martin alone or in combination. As such, Applicants respectfully request reconsideration and withdrawal of the §103(a) rejection of these claims.

In view of the foregoing, applicant respectfully submits that all claims present in this application are patentable over the cited prior art. Accordingly, applicant respectfully requests favorable reconsideration and withdrawal of the rejections of the claims. Also, applicant respectfully requests that this application be passed to allowance.

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